

### DEPARTMENT OF TRANSPORTATION

# **National Highway Traffic Safety Administration**

### **Docket No. NHTSA-2013-0047**

# NHTSA Activities under the United Nations World Forum for the Harmonization of Vehicle Regulations 1998 Global Agreement

**AGENCY**: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION**: Notice of activities under the 1998 Global Agreement and request for comments.

SUMMARY: NHTSA is publishing this notice to inform the public of the upcoming scheduled meetings of the World Forum for the Harmonization of Vehicle Regulations (WP.29) and its Working Parties of Experts for calendar year 2014. It also provides the most recent status of activities under the Program of Work of the 1998 Global Agreement (to which the United States is a signatory Contracting Party) and requests comments on those activities. Publication of this information is in accordance with NHTSA's Statement of Policy regarding Agency Policy Goals and Public Participation in the Implementation of the 1998 Global Agreement on Global Technical Regulations (GTR).

**DATES:** Comments to this notice must be received on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may submit comments identified by Docket No.

NHTSA-XXXX-XXXX by any of the following methods:

Federal eRulemaking Portal: Go to <a href="http://www.regulations.gov">http://www.regulations.gov</a>. Follow the online instructions for submitting comments.

- Mail: Docket Management Facility, U.S. Department of Transportation,
   1200 New Jersey Avenue S.E., West Building Ground Floor, Room W12-140,
   Washington, D.C. 20590-0001
- Hand Delivery or Courier: West Building Ground Floor, Room W12-140,
   1200 New Jersey Avenue S.E., between 9 a.m. and 5 p.m. ET, Monday through
   Friday, except Federal holidays.

• Fax: 202-493-2251

<u>Instructions</u>: Public Participation

Comments must not exceed 15 pages in length (49 CFR part 553.21). Attachments may be appended to these submissions without regard to the 15 page limit. This limitation is intended to encourage commenters to detail their primary arguments in a concise fashion. If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential business information, should be submitted to the Chief Counsel, NHTSA, at the street address given in the FOR FURTHER INFORMATION CONTACT section, and two copies from which the purportedly confidential information has been deleted should be submitted to the docket. A request for confidentiality should be accompanied by a cover letter setting forth the information specified in the agency's confidential business information regulation. 49 CFR part 512. All comments received before the close of business on the comment closing date indicated above for this document will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Comments on this document will be available for inspection in the docket. NHTSA will continue to file relevant information as it becomes available for

inspection in the docket after the closing date, and it is recommended that interested persons continue to examine the docket for new material. Those persons desiring to be notified upon receipt of their comments in the rules docket should enclose a self-addressed, stamped postcard in the envelope with their comments. Upon receiving the comments, the docket supervisor will return the postcard by mail. All submissions must include the agency name and docket number for this proposed collection of information. Note that all comments received will be posted without change to <a href="http://www.regulations.gov">http://www.regulations.gov</a>, including any personal information provided. Please see the Privacy Act heading below.

<u>Privacy Act</u>: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the *Federal Register* published on April 11, 2000 (65 FR 19477-78), or you may visit http://DocketsInfo.dot.gov.

<u>Docket</u>: For access to the docket to read background documents or comments received go to http://www.regulations.gov or the street address listed above. Follow the online instructions for accessing the dockets.

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# I. Background

On August 23, 2000, NHTSA published in the Federal Register (65 FR 51236) a statement of policy regarding the Agency's policy goals and public participation in the implementation of the 1998 Global Agreement, indicating that each calendar year the Agency would provide a list of scheduled meetings of the World Forum for the Harmonization of

Vehicle Regulations (WP.29) and the Working Parties of Experts, as well as meetings of the Executive Committee of the 1998 Global Agreement (AC.3). Further, the Agency stated that it would keep the public informed about the Agreement's Program of Work (i.e., subjects designated for Global Technical Regulation (GTR) development) and seek comment on those subjects on a regular basis. In keeping with the policy, NHTSA has notified the public about the status of activities under the 1998 Global Agreement and sought comments on various issues and proposals through a series of Federal Register notices published beginning July 2000.<sup>2</sup>

This notice provides the latest and current status of the Agency's activities at the World Forum for the Harmonization of Vehicle Regulations under the 1998 Global Agreement.

### WP.29 and its Working Parties of Experts

### 1. WP.29

WP.29 was established on June 6, 1952 as the Working Party on the Construction of Vehicles, a subsidiary body of the Inland Transport Committee (ITC) of the United Nations Economic Commission for Europe (UNECE). In March 2000, WP.29 became the "World Forum for Harmonization of Vehicle Regulations (WP.29)." The objective of the WP.29 is to initiate and pursue actions aimed at the worldwide harmonization or development of technical

<sup>&</sup>lt;sup>1</sup> This statement of policy is codified in Appendix C of Part 553 of Title 49 of the CFR.

<sup>&</sup>lt;sup>2</sup> The relevant Federal Register notices include: 65 FR 44565, 66 FR 4893, 68 FR 5333, 69 FR 60460, 71 FR 59582, 73 FR 7803, 73 FR 8743, 73 FR 31914, 73 FR 5520, 77FR 4618, and 78 FR 21191.

regulations for vehicles.<sup>3</sup> Providing uniform conditions for periodical technical inspections and strengthening economic relations worldwide, these regulations are aimed at:

- improving vehicle safety;
- protecting the environment;
- promoting energy efficiency; and
- increasing anti-theft performance.

WP.29 currently administers three UNECE Agreements:

UNECE 1958 Agreement concerning the Adoption of Uniform Technical
 Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on
 Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the
 Basis of these Prescriptions;

- UNECE 1998 Agreement concerning the Establishing of Global Technical
   Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on
   Wheeled Vehicles.
- 3. UNECE 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of such Inspections.

Four committees coordinate the activities of WP.29:

AC.1 - Administrative Committee for 1958 Agreement

AC.2 - Administrative Committee for the Coordination of Work

<sup>3</sup> For general information about WP.29, see the document, "World Forum for Harmonization of Vehicle Regulations (WP.29) – How It Works, How to Join It," available at <a href="http://www.unece.org/transport/resources/publications/publications.html">http://www.unece.org/transport/resources/publications/publications.html</a>. (last accessed December 17, 2013).

AC.3 - Executive Committee for 1998 Agreement

AC.4 - Administrative Committee for 1997 Agreement

AC.1, AC.3 and AC.4 are the Administrative/Executive Committees for the Agreements administered by WP.29, constituting all Contracting Parties of the respective Agreements.

The coordination of work of the World Forum is managed by a Steering Committee (AC.2) comprising the Chairperson and Secretariat of WP.29, the Chairpersons of the Executive Committees of the 1958, 1997, and 1998 Agreements administered by WP.29, the representatives of the European Community, Japan and the United States of America, and the Chairpersons of WP.29's subsidiary bodies (GRs or Working Parties). The duties of AC.2 are to develop and recommend to WP.29 a Program of Work, to review the reports and recommendations of WP.29's subsidiary bodies, to identify items that require action by WP.29 and the time frame for their consideration, and to provide recommendations to WP.29.

### 2. Working Parties of Experts

The permanent subsidiary bodies of WP.29, also known as GRs (Groups of Rapporteurs), assist the World Forum for Harmonization of Vehicle Regulations in researching, analyzing and developing requirements for technical regulations in the areas of their expertise. There are six subsidiary bodies:

Working Party on Lighting and Light-Signaling (GRE)

Working Party on Brakes and Running Gear (GRRF)

Working Party on Passive Safety (GRSP)

Working Party on General Safety Provisions (GRSG)

Working Party on Pollution and Energy (GRPE)

Working Party on Noise (GRB)

Each subsidiary body consists of persons whose expertise is relevant to the area covered by the body. All proposals for new regulations or amendments to existing regulations are referred by the World Forum to its relevant subsidiary bodies for the development of technical recommendations. In view of the significance of the role of these subsidiary bodies, they have been given permanent status under the UN and have been designated as permanent and formal "Working Parties." More specifically, the working parties and their areas of expertise are outlined below:

### Active Safety of Vehicles and their Parts (Crash Avoidance)

Working Party on Lighting and Light-Signaling (GRE)

Working Party on Brakes and Running Gear (GRRF)

The regulations in this area seek to improve the behavior, handling and equipment of vehicles so as to decrease the likelihood of a road crash. Some of the regulations seek to increase the ability of drivers to detect and avoid hazardous circumstances. Others seek to increase the ability of drivers to maintain control of their vehicles. Specific examples include regulations applying to lighting and light-signaling devices, braking, steering, tires and rollover stability. This area of safety technology is rapidly changing. The advent of advanced technologies (e.g., electronic control systems, advanced sensors and communication) is providing opportunities for developing new approaches for helping drivers avoid crashes.

# Passive Safety (Crashworthiness)

Working Party on Passive Safety (GRSP)

The regulations in this area seek to minimize the risk and severity of injury for the occupants of a vehicle and/or other road users in the event of a crash. As is done in other working groups, extensive use is made of crash statistics to identify safety problems for which a

regulation or amendment to an existing regulation is needed and define a proper cost/benefit approach when improving performance requirements in this area. This is important, given the overall impact of new requirements on vehicle construction, design and cost. Specific examples of current regulations include ones addressing the ability of the vehicle structure to manage crash energy and resist intrusion into the passenger compartment, occupant restraint and protection systems for children and adults, seat structure, door latches and door retention, pedestrian protection, and for motorcycles, the quality of the protective helmet for the rider. This area of technology also is changing rapidly and becoming more complex. Examples include advanced protection devices that adjust their performance in response to the circumstances of individual crashes.

### **General Safety Considerations**

Working Party on General Safety Provisions (GRSG)

The regulations in this area address vehicle and component features which are not directly linked to the above-mentioned subject areas. For example, windshield wipers and washers, controls and displays, and glazing are grouped under this heading. Further, theft prevention and the considerations related to motorcoaches and other mass public transport vehicles are covered under this category.

### **Environmental Considerations**

Working Party on Pollution and Energy (GRPE)

Working Party on Noise (GRB)

In general, the regulations in this area address questions of the pollution of the environment, noise disturbances and conservation of energy (fuel consumption). However, the issue of quiet vehicles' unintended safety consequence related to pedestrian safety is currently

being addressed by GRB even though this group does not normally address safety issues. This is because the necessary acoustics experts needed to develop a safety regulation to address the issue are part of this group.

### **Special Technical Considerations**

Informal Working Groups (IWGs)

In some cases, a specific problem needs to be solved urgently or needs to be addressed by persons having a special expertise. There are also cases where an issue cuts across multiple GRs or is not specifically relevant to any of them. In such situations, a special informal working group may be entrusted with the analysis of the problem and invited to prepare a proposal for a regulation. Although such cases have traditionally been kept to a minimum, the rapid development of complex new technologies is increasing the necessity for using this approach.

### II. List of Provisional Meetings of WP.29 and its Working Parties of Experts

The following list shows the scheduled meetings of WP.29 and its subsidiary Working Parties of Experts for calendar year 2014. In addition to these meetings, Working Parties of Experts may schedule, if necessary, IWG sessions outside their regular schedule in order to address technical matters specific to GTRs under consideration. The formation and timing of these groups are recommended by the sponsoring Contracting Party and are approved by WP.29 and AC.3. The schedules and places of meetings are made available to interested parties in proposals and periodic reports which are posted on the website of WP.29, which can be found at: http://www.unece.org/trans/main/welcwp29.html (last accessed December 17, 2013).

# 2014 Provisional Schedule of Meetings of WP.29 and its Working Parties of Experts

<u>JANUARY</u>	
7-10	Working Party on Pollution and Energy (GRPE) (68th session)
<b>FEBRUARY</b>	working runey on rondition and Energy (Ord E) (oods session)
4-6	Working Party on Noise (GRB) (59th session)
17-21	Working Party on Brakes and Running Gear (GRRF) (76th session)
<b>MARCH</b>	
10	Administrative Committee for the Coordination of Work (WP.29/AC.2) (114th session)
11-14	World Forum for Harmonization of Vehicle Regulations (WP.29) (162nd session)
31-3	Working Party on Lighting and Light-Signalling (GRE) (71st session)
MAY	
5-9	Working Party on General Safety Provisions (GRSG) (106th session)
19-23	Working Party on Passive Safety (GRSP) (55th session)
<b>JUNE</b>	
3-6	Working Party on Pollution and Energy (GRPE) (69th session)
23	Administrative Committee for the Coordination of Work (WP.29/AC.2) (115th session)
24-27	World Forum for Harmonization of Vehicle Regulations (WP.29)
	(163rd session)
<b>SEPTEMBER</b>	
1-3	Working Party on Noise (GRB) (60th session)
16-19	Working Party on Brakes and Running Gear (GRRF) (77th session)
<u>OCTOBER</u>	
7-10	Working Party on General Safety Provisions (GRSG) (107th session)
20-22	Working Party on Lighting and Light-Signalling (GRE) (72nd session)
<u>NOVEMBER</u>	
10	Administrative Committee for the Coordination of Work (WP.29/AC.2) (116th session)
11-14	World Forum for Harmonization of Vehicle Regulations (WP.29)
	(164th session)
14	Working Party on Pollution and Energy (GRPE) (70th session)
<b>DECEMBER</b>	
9-12	Working Party on Passive Safety (GRSP) (56th session)

# III. Status of Activities Under the Program of Work of the 1998 Global Agreement

The current Program of Work of the 1998 Global Agreement is listed in the table below.

Note that the items listed are for those related to vehicle safety only.

Working Party of Experts	Subject	Sponsoring Contracting Party	Chair of Informal Working Group
WP.29	Exchange of Information - Enforcement Working Group	United States	United States
GRRF	GTR on Tires for Light Vehicles	France	UK
	Phase 2 of GTR No. 7 (Head Restraints)	Japan	UK
	Phase 2 of GTR No. 9 (Pedestrian Safety)	Japan/Germany	Germany/Japan
GD GD	GTR on Pole Side Impact	Australia	Australia
GRSP	Exchange of Information on Harmonized Side Impact Dummies	United States	United States
	Electric Vehicles Safety GTR	United States/Japan/European Commission (EC)/China	United States/Japan
GRB	GTR on Quiet Road Transport Vehicles	United States/Japan/EC	United States/Japan

### A. GTRs Established in CY 2013

Hydrogen Fuel-Cell Vehicles

GTR 13 for Hydrogen and Fuel Cell Vehicles was established<sup>4</sup> on June 27, 2013, after a 6-year effort. Work on the GTR was initiated when WP.29 adopted an Action Plan prepared by the co-sponsors (United States, Germany and Japan) to develop a GTR for compressed gaseous and liquefied hydrogen fuel vehicles in June 2007.<sup>5</sup> WP.29 formed an IWG to develop a GTR for these

<sup>&</sup>lt;sup>4</sup> Under the 1998 Global Agreement, GTRs are established by consensus vote of the Agreement's Contracting Parties present and voting.

<sup>&</sup>lt;sup>5</sup> The GTR Action Plan (ECE/TRANS/WP.29/2007/4I) and GTR proposal (ECE/TRANS/WP.29/AC.3/I7)

types of vehicles with the aim of attaining levels of safety equivalent to those for conventional gasoline-powered vehicles. In June 2013, the GTR for hydrogen vehicles was established by a unanimous vote in WP.29. It covers the safety of automotive hydrogen fuel containers, hydrogen fuel lines and their related components, as well as the safety of high-voltage components.

Consistent with the provisions set forth under the 1998 Agreement,

NHTSA is currently evaluating the GTR for adoption and will provide a regular status report to WP.29.

For a possible second phase of work, the co-sponsors of the hydrogen GTR are discussing and developing a new work plan and roadmap. Focus topics for this Phase are expected to include:

(a)	Potential harmonization of vehicle crash tests
(b)	Potential scope revision to address additional
	vehicle classes
(c)	Potential harmonization of crash test
	specifications
(d)	Requirements for material compatibility and
	hydrogen embrittlement
(e)	Requirements for the fueling receptacle
(f)	Evaluation of performance-based test for long-
	term stress rupture
proposed in Phase 1	

(g) Consideration of research results reported after completion of Phase 1 –

specifically research related to electrical safety, hydrogen storage systems, and post-crash safety

### **B.** Status of GTRs Under Development

## 1. Pedestrian Safety

As discussed in the 2013 notice, the November 2008 session, WP.29 voted to establish GTR 9 on Pedestrian Safety.<sup>6</sup>

The GTR contains two sets of performance criteria applying to: (a) the hood; and (b) the front bumper. Unique test procedures address adult and child head and adult leg impact protection for each of the two crash scenarios. At the time GTR 9 was adopted, a legform impactor developed by TRL (Transport Research Laboratory, UK) was used to evaluate front bumper impact performance. WP.29, however, agreed to consider the future use of a newer legform impactor called Flex-PLI (Flexible Pedestrian Legform Impactor), which may be more biofidelic. At the May 2011 session of GRSP, NHTSA reported research results that raised concerns about the readiness of the Flex-PLI device. As a result, at its June 2011 session, WP.29 agreed to form a new IWG under the sponsorship and chairmanship of Germany and Japan to further refine the Flex-PLI device to replace the existing leg form impacter in GTR 9. A task force bumper test area was established within the informal group with the objective to improve the Flex-PLI test procedure as the size of the bumper test area is reduced due to new bumper designs. The European Commission is chairing this effort.

<sup>&</sup>lt;sup>6</sup> 78 FR 21191. NHTSA received one comment from the American Motorcycle Association on the Pedestrian Safety GTR, offering to assist NHTSA in evaluating how this GTR could also reduce injuries to motorcyclists. The comment has been forwarded to those at NHTSA working on a proposal to introduce the GTR in the United States.

To evaluate the Flex-PLI, the IWG started an international vehicle round-robin test program in September 2012, and finalized it in March 2013. Testing was conducted in Europe, Korea and the United States. The results showed a stable performance of the legform impactor with good repeatability. No problem with durability was found during testing. The working group has also developed certification procedures and cost benefit assessments for the Flex-PLI.

With regard to the injury criteria, the IWG agreed on injury assessment reference values (IARVs) that were derived from two different approaches, one proposed by Germany and another proposed by Japan. NHTSA requested information about the derivation of the injury risk functions using these two approaches, as the information had not been made available to the IWG. At this point the United States is not prepared to agree or disagree with the IAVRs in the current draft proposal for this GTR amendment until our own cost-benefit analysis is completed. For this reason, the United States recommended including alternate language allowing Contracting Parties to select different IARVs using cost-benefit analysis in their own country, provided they were based on the same injury risk functions used to select the IARVs in the GTR. The United States also added language to the draft preamble of this pending GTR amendment to reflect our concerns about the level of stringency of the IARVs.

The formal proposal to amend GTR 9 by introducing the Flex-PLI impactor was submitted to GRSP in December 2013. Delegates objected to the United States proposal, and instead a footnote was added allowing only contracting parties without pre-existing pedestrian protection regulations or standards to adopt other IARVs, but without included any criteria for those IARVs. The international Organization of Motor Vehicle Manufacturers (OICA) objected to this language also, therefore while GRSP agreed to

recommend the draft GTR to WP.29 for a vote at the June 2014 session, it also agreed to ask for WP.29's advice regarding the injury criteria issue at the March 2014 session. The document would then be returned to GRSP for the May 2014 session if necessary.

### 2. Head Restraints

The GTR for head restraints (GTR 7) was established by WP.29 at its March 2008 session. At that time, the GTR incorporated a dynamic test option to some of the static requirements using the Hybrid III test dummy. It was anticipated that a new dummy, the Biofidelic Rear Impact Dummy (BioRID II), might eventually allow for a full system whiplash evaluation test that incorporates the combined performance of the seat and head restraint, but the dummy was not then sufficiently developed to incorporate, even as an option, the way the Hybrid III dummy was incorporated. Therefore, in November 2009, WP.29 initiated a second phase of development for the GTR by forming a new IWG tasked with the development of a fully developed BioRID II test tool, including test procedures, injury criteria and associated corridors.

At the December 10-11, 2012 meeting of the IWG, the chairman confirmed that the development of a proposal for a certification procedure of the BioRID II was in progress and that the study, which is funded by the EC, identified areas of dummy performance, (specifically, reproducibility) still required further investigation. He also reported that the group may have to consider proposing it as an option to Hybrid III rather than a replacement. The goal of the IWG was to submit a proposal for consideration at the December 2013 session of GRSP.

At the June, 2013 session of WP.29 the chairman reported that the IWG had agreed on draft proposals for: (i) an effective head restraint height measurement procedure and (ii) an appropriate dynamic test, including the test procedure and the associated

corridors for the BioRID II. However, he added that the development of injury criteria for the use of the BioRID II was at a critical point, because medical research in the United States was still progressing, but not as rapidly as was expected. As a result, WP.29 agreed to extend the mandate of the IWG until the end of 2015. Since that time, availability of redesigned BioRID II dummies from the manufacturer has caused some additional changes, but the IWG is still hopeful that it can submit a proposal for consideration at the May 2014 session of GRSP. If GRSP votes to recommend the amendments at that session, WP.29 could vote on the amendments as early as the November 2014 session, earlier than this new deadline.

At the December 2013 session of GRSP, a new proposal to amend the GTR was submitted jointly by Germany, the Netherlands, and the United Kingdom. The proposal would require front outboard designated seating positions to have at least one position of head restraint adjustment that was not less than 830 mm, an increase of 30 mm over the current requirement of 800 mm, and to have no position of head restraint adjustment that was less than 720 mm, a decrease of 30 mm over the current requirement of 750 mm.

Both OICA and the United States submitted informal documents responding to this proposal. OICA indicated that the new measurement method included in the draft proposal from the IWG would lead to results on average 30 mm lower than when using the current measurement method and that therefore, the effect of this proposal combined with that change would be to require an average 60 mm increase in head restraint height. The United States document requested data to support the proposal, and also noted that feasibility issues had previously been raised when high head restraint heights had been proposed in the past.

# 3. Quiet Electric and Hybrid-Electric Vehicles

As discussed in the 2013 notice, in 2009, NHTSA published a report on the incident rates of crashes involving hybrid-electric vehicles and pedestrians under different scenarios. The U.S. study, using crash data collected from several states, compared vehicle to pedestrian crash rates for hybrid electric-vehicles and vehicles with internal combustion engines (ICE). In the study, the agency concluded that there was an increased rate of pedestrian crashes for hybrid electric vehicles versus similarly sized ICE vehicles. In 2010, the agency published a second report that found that the overall sound levels for the hybrid-electric vehicles tested were lower at low speeds than for the peer ICE vehicles tested.<sup>8</sup>

The Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT), after studying the feasibility of alert sounds for electric and hybrid-electric vehicles, issued guidelines for pedestrian alert sounds in 2010. MLIT concluded that pedestrian alert sounds should be required only on hybrid-electric vehicles that can run exclusively on an electric motor, electric vehicles and fuel-cell vehicles. MLIT guidelines require that electric and hybrid-electric vehicles generate a pedestrian alert sound whenever the vehicle is moving forward at any speed less than 20 km/h and when the vehicle is operating in reverse. The guidelines do not require vehicles to produce an alert sound when the vehicle is operating, but stopped, such as at a traffic light. Also, manufacturers are allowed to equip the vehicle with a switch to deactivate the alert sound temporarily.

WP.29 also determined that vehicles propelled in whole or in part by electric

<sup>&</sup>lt;sup>7</sup> "Research on Quieter Cars and the Safety of Blind Pedestrians, A Report to Congress" prepared by National Highway Traffic Safety Administration, U.S. Department of Transportation, October 2009. This report can be found at

http://www.nhtsa.gov/DOT/NHTSA/NVS/Crash%20Avoidance/Technical%20Publications/2010/RptToCongress09 1709.pdf

<sup>&</sup>lt;sup>8</sup> Garay-Vega, Lisandra; Hastings, Aaron; Pollard, John K.; Zuschlag, Michael; and Stearns, Mary D., Quieter Cars and the Safety of Blind Pedestrians: Phase I, John A. Volpe National Transportation Systems Center, DOT HS 811 304 April 2010, available at

http://www.nhtsa.gov/DOT/NHTSA/NVS/Crash%20Avoidance/Technical%20Publications/2010/811304rev.pdf.

means, present a danger to pedestrians and consequently adopted guidelines covering alert sounds for electric and hybrid vehicles that are closely based on the Japanese guidelines at its March 2011 meeting. The guidelines were published as an annex to the UNECE Consolidated Resolution on the Construction of Vehicles (R.E.3).

Considering the international interest and work in this new area of safety, the United States, the European Commission (EC) and Japan agreed to work, as cosponsors, on a new GTR to develop harmonized pedestrian minimum sound requirements for electric and hybrid-electric vehicles under the 1998 Global Agreement.<sup>9</sup>

WP.29 is currently working to develop the GTR. In 2013, three meetings of the IWG were held: (1) Brussels, Belgium, in April, (2) Washington DC, in July, and (3) Tokyo, Japan in December.

At its November 2013 session, WP.29 decided to extend the timeline for completing the GTR by one year – it is now expected to be established November 2015. The next meeting of the IWG will take place in Washington DC in May 2014. The meeting agendas, reports and related documents can be found on the UN website for this IWG.<sup>10</sup>

# 4. Electric Vehicles

At the March 2012 session of WP.29, the co-sponsors (the United States, Japan, and the EC) submitted a joint proposal (ECE/Trans/WP.29/2012/36. and its Corr1) to

<sup>&</sup>lt;sup>9</sup> Additionally, the agency is taking this action because the Pedestrian Safety Enhancement Act requires the agency to issue a standard specifying minimum sound for Hybrid and Electric Vehicles. The agency announced its proposal on January 14, 2013 (78 FR 2797).

<sup>10</sup> https://www2.unece.org/wiki/display/trans/GTR+for+QRTV

establish two working groups to address the safety and environmental issues associated with electric vehicles (EVs). The WP.29 Executive Committee adopted this proposal as well as approved China, per its request, as the fourth co-sponsor.

For the safety aspects, an electric vehicle safety (EVS) IWG was formed to begin development of the GTR, which would apply to high voltage hybrid and pure electric vehicles with a gross vehicle mass of 4,536 kilograms or less, their batteries, and other associated high-risk components. The United States chairs the IWG with China and the EU as co-vice chairs, and Japan as the secretary. To the extent possible, the GTR will include performance-based requirements and testing protocols designed to allow for innovation, while ensuring that the unique safety risks posed by electric vehicles are mitigated. The GTR will address the safety of high voltage electrical components, including lithium-ion and other types of batteries, their performance during normal use, after a crash event, and while recharging at a residential or commercial station.

The third and fourth EVS IWG meetings were held in 2013: (1) Tokyo, Japan, in April and (2) Beijing, China, in October. At these meetings, the IWG exchanged current regulatory, technical and research information and drafted an outline for the GTR. The IWG also discussed the OICA's proposal which was submitted for the IWG consideration. This proposal contained requirements based on the existing UNECE regulation (R100) for electric vehicle safety, which included safety requirements for occupant protection against high voltage and rechargeable energy storage systems. At the Beijing IWG meeting, the US submitted a battery research plan and approach to rulemaking to the IWG for information and consideration. As presented at the IWG meetings, NHTSA believes that it is important to select boundary conditions and test methods that appropriately and accurately capture the nature of the vehicle working/or

operating environment. The research tests include mechanical shock, mechanical integrity, fire hazard, vibration, thermal shock, cycling, and others. Based on the approach of the Hydrogen Fuel-Cell Vehicle GTR no. 13, NHTSA is using similar vehicle conditions to establish the rechargeable energy storage system (REESS) research test boundary conditions, such as operating temperatures and test temperature and exposure time for fire test. For example, the vibration schedule must be representative of the general operating environment of a vehicle. Each performance requirement and test method must correlate to safety risks of in-use and post-crash automobiles. The abuse conditions that NHTSA believes must be considered in the process of developing performance standards include mechanical penetration, internal short circuit, chemical compatibility, and the liberation of stranded energy in the post-crash or inoperative environment. We believe that the results of the anticipated research will play an important role in better informing the appropriate approach to evaluate battery system safety.

NHTSA recognizes that the OICA proposal addresses some of the general topics that may be required by a comprehensive REESS safety standard. However, many of these requirements were developed to evaluate criteria under conditions unrelated to the automotive applications during use and post-crash. Some of these requirements support general reliability criteria for product development but do not directly support safety performance metrics. Rather they may only imply safety by demonstrating the lack of a safety failure during the tested conditions, which are unacceptable from a performance point of view. Other requirements impose safety relevant abuse conditions to a cell or module then observe or measure the response to that abuse. During REESS

development, these tests may describe some sub-component safety limits that are useful in designing protections from those conditions. However, they generally do not cascade to vehicle or pack level performance, and boundary conditions to these tests must be accurately defined to the specific application requirements.

NHTSA believes that a system-level evaluation is the most appropriate method for determining safety performance in this context. NHTSA will continue to work with the IWG and share technical data and analysis for future IWG discussions and drafting the GTR.

### 5. Light Vehicle Tires

The IWG for developing a GTR on light vehicle tires began its work in September 2006. The activity is sponsored by France and chaired by the UK. The GTR would apply to radial passenger and light truck tires designed for use on vehicles with a gross mass of 10,000 pounds or less. Its provisions include five mandatory performance and labeling requirements (tire sidewall markings, tire dimensions, high speed performance, low pressure and endurance performance, and wet traction performance).

In addition, there are two optional modules, with one containing a tire strength test and bead unseating resistance test, and the second containing a tire rolling sound emission test. During the course of the development of the GTR, it became apparent that the requirements for light truck tires would require more time to develop. It was therefore decided by WP.29 to split the work on the GTR into two phases. The first phase covers passenger car tires only, and the second will address the light truck tires.

NHTSA received a comment from the Rubber Manufacturers Association (RMA) on this GTR in response to the 2013 Federal Register notice. The RMA noted that the GTR should have been included in the "GTRs Nearing Completion and Establishment by

Vote" section, rather than the "GTRs Under Development" section, and urged the agency to vote in support of the GTR at the November 2013 session of WP.29. The vote has yet to occur because of an outstanding issue involving the validation of a trailer-based method for evaluating wet traction performance of tires. The US is currently conducting research in this area which should conclude by mid-2014. Subsequently, if agreement is reached on the final text of the GTR, a vote to establish it is expected to take place at the November 2014 session of WP.29/AC.3.

### 6. Pole Side Impact Protection and Harmonized Side Impact Dummies

In November 2009, an informal meeting was held in Washington, DC among interested experts to discuss international cooperation in the development of harmonized side impact dummies. In June 2010, WP.29 formed an IWG to develop a GTR for pole side impact (PSI) protection under the sponsorship and chairmanship of Australia. At the same time, an IWG on Harmonized Side Impact Dummies was formed under the sponsorship and chairmanship of the United States. The second group was tasked with supporting the PSI GTR by evaluating and further developing the World Side Impact Dummy (WorldSID) family of dummies. The two groups have generally met in conjunction. The side impact dummy IWG held its first meeting in November of 2009 and the PSI group held its first meeting in November 2010. The first tasks of the PSI IWG included confirming the safety need for the GTR and assessing potential candidate crash test procedures for the GTR. As originally planned, the GTR would contain pole side impact test procedures using side impact test dummies representing a WorldSID 50th percentile adult male and a WorldSID 5th percentile adult female.

At the November 2013 session, WP.29 adopted a Pole Side Impact GTR that incorporates an oblique pole test similar to that in the FMVSS No. 214, "Side impact protection;" however, it uses the 50th percentile male WorldSID dummy only. While WP.29 agreed to a change of the terms of reference of the IWG to allow a GTR with only one dummy instead of both the World SID 50<sup>th</sup> percentile adult male and World SID 5<sup>th</sup> percentile adult female as originally planned, it included a provision that no Contracting Party would be required to initiate the process to adopt the GTR until both phases were complete, even if it were to vote in favor of the first phase of the GTR. However, the United States was not in a position to vote yes on the IARVs for the 50<sup>th</sup> percentile adjult male at the time the vote was taken and was concerned about its future position since it could not predict the outcome of a second phase. Therefore, the United States abstained from the vote for the pole side impact GTR.

At the November 2012 session, WP.29 established Mutual Resolution (M.R.1) of the 1958 and 1998 Agreements concerning the description and performance of test tools and devices necessary for the assessment of compliance of wheeled vehicles, equipment and parts according to the technical prescriptions specified in Regulations and global technical regulations. It is intended that test tools and devices necessary for compliance assessment will be comprehensively defined in terms of their essential characteristics and performance in an addenda to M.R.1. In conformity with this a parallel proposal to the Pole Side Impact GTR for Addendum 2 to M.R.1 introducing drawings and specifications for the WorldSID 50th percentile male will be submitted at a later stage to GRSP and to WP.29 for adoption. The Secretariat of the UN is currently negotiating with the International Organization for Standardization (150) which holds the copywrite on many of the documents on how to incorporate them into M.R.I.

Concerning the 5th percentile female WorldSID dummy, as previously reported, issues will significantly increase development time for this dummy. Currently, the effort on the 5th percentile female is expected to be completed by December 2015.

Because of this, the PSI IWG has suspended its meetings until the 5th percentile female WorldSID dummy development is complete. At that time it will resume its meetings to complete work on the GTR to incorporate the second dummy.

### C. Exchange of Information Item

**Enforcement Working Group** 

At the June 2011 session of WP.29, NHTSA proposed that WP.29 consider forming a new working group that would meet to facilitate the regular exchange of non-proprietary or otherwise non-privileged information on enforcement-related activities from around the world to help governments identify and manage incidences of automotive non-compliance or defects more quickly. The participants of WP.29 welcomed and accepted the proposal. To date, four meetings of the IWG have been held, each during the November 2011, June 2012, November 2012, and June 2013 sessions of WP.29. The IWG is open to all the delegates to WP.29 including the Contracting Parties, Non-Governmental Organizations and industry associations and is expected to meet twice a year going forward (each June and November sessions of WP.29) subject to the agreement of WP.29.

# **D.** Compendium of Candidate GTRs

Article 5 of the 1998 Global Agreement provides for the creation of a compendium of candidate technical regulations submitted by the Contracting Parties.

To date, NHTSA has submitted several FMVSSs for inclusion in this Compendium.

These FMVSSs have all been listed in the Compendium after an affirmative vote of the Executive Committee of the 1998 Global Agreement.

The FMVSS currently listed in the Compendium include:

- FMVSS No. 108: Lamps, Reflective Devices, and Associated Equipment
- FMVSS No. 135: Passenger Car Brake Systems
- FMVSS No. 139: New Pneumatic Radial Tires for Light Vehicles
- FMVSS No. 202a: Head Restraints
- FMVSS No. 205: Glazing Materials
- FMVSS No. 213: Child Restraint Systems
- EPA and DOT programs for Light-duty Vehicle Greenhouse Gas

Emissions Standards and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles

- EPA and NHTSA Programs for Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles
- EPA and NHTSA Programs for Revisions and Additions to the Motor
   Vehicle Fuel Economy Label: New Fuel Economy and Environment Labels for a
   New Generation of Vehicles

No additional candidate technical regulations have been added as of the publication of this notice.

# **IV.** Request for Comments

NHTSA invites public comments on the various activities outlined in this notice. As discussed in Appendix C of 49 CFR part 553, if NHTSA votes "yes" on a GTR, the agency will publish a notice requesting public comment on adopting the regulation as a U.S. standard. Any

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decision by NHTSA whether to issue a final rule adopting the regulation or to issue a notice

terminating consideration of that regulation will be made in accordance with applicable U.S. law

and only after careful consideration and analysis of public comments. In the event that NHTSA

issues a final rule based on a GTR and, due to the public comments and/or new information and

data, the final rule significantly differs from the GTR, NHTSA will consider seeking

amendments to the GTR in an effort to achieve consistency. The agency plans to issue

individual notices based on each GTR as it is established by WP.29 and will consider additional

detailed comments at that time.

Claude H. Harris

Acting Associate Administrator for

Rulemaking

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